

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the present application:

1-75. (Canceled)

76. (New) A method including

receiving at a storage server, from a requester, a request for an object stored at the server;

in response to the request, determining at the storage server whether to cause a processing device to access the object stored at the storage server and perform an operation on data associated with the object, wherein the processing device is separate from the storage server and is not in a path from the requester to the object, wherein said determining includes determining whether to cause the processing device to perform the operation based at least partially on a file space containing the object;

causing the processing device to perform the operation in response to a specified outcome of said determining;

receiving at the storage server a result of the operation from the processing device; and

conditionally allowing access to the object in response to the request according to the result of the operation.

77. (New) A method as in claim 76, wherein the operation includes a plurality of processes, each process being performed at a separate processing device in a cluster.

78. (New) A method as in claim 76, further including assigning a specific access type to the processing device by the server, the specific access type allowing the processing device to perform the operation even while another user has a lock on the object.

79. (New) A method as in claim 76, wherein the storage server enforces a timeout for the operation;

wherein even if the timeout expires, the processing device completes the operation and reports the result of the operation to the server; and

wherein the storage server stores the result of the operation for possible later use.

80. (New) A method as in claim 76, wherein the operation comprises virus scanning.

81. (New) A method as in claim 80, wherein the operation is performed only if the processing device has open-for-scanning permission to access the object; and

wherein if the processing device has the open-for-scanning permission to access the object, the operation is performed even if the object is locked by another user.

82. (New) An apparatus comprising:

a storage server storing a set of objects and having a network interface; and

a processing device that is connected to the storage server and that is not in a path from a client to the objects stored at the server,

wherein when the storage server receives a client request for an object of the set of objects through the network interface:

the storage server determines whether to cause the processing device to perform an operation on data associated with the object, wherein the storage server determines whether to cause the processing device to perform the operation based at least partially on and a file space containing the object;

the storage server sends a first message to the processing device that indicates the object to the processing device, in response to a specified outcome of the determination, to cause the processing device access the object stored at the storage server and perform the operation;

the processing device sends a second message to the storage server that indicates a result of the operation; and

the storage server generates a response to the client request, the response conditionally providing access by the client to the object according to the second message.

83. (New) An apparatus as in claim 82, wherein the storage server enforces a timeout for the second message;

wherein even if the timeout expires, the second message is sent from the processing device to the server; and

wherein the storage server stores the result of the operation for possible later use.

84. (New) An apparatus as in claim 82, wherein the operation includes virus scanning.

85. (New) An apparatus as in claim 84, wherein the operation is performed only if the processing device has open-for-scanning permission to access the object; and

wherein if the processing device has open-for-scanning permission to access the object, the operation is performed even if the object is locked by another user.

86. (New) A method including

receiving at a storage server a client request for an object stored at the server;
assigning by the storage server a specific access type to a processing device that is separate from the storage server and is not in a path from the client to the object, the specific access type allowing the processing device to perform an operation on the object even while another client has a lock on the object;

causing the processing device to perform the operation;

receiving at the storage server a result of the operation from the processing device; and

conditionally allowing access to the object in response to the client request according to the result of the operation.

87. (New) A method as in claim 86, wherein the operation comprises virus scanning.

88. (New) An apparatus comprising:

a storage server storing a set of objects and having a network interface; and

a processing device coupled to the server, wherein the processing device is not in a path from a client to the objects stored at the server,

wherein:

the storage server receives a client request for an object of the set of objects through the network interface;

the storage server assigns a specific access type to a processing device that is separate from the storage server and is not in a path from the client to the object, the specific access type allowing the processing device to perform an operation on the object even while another user has a lock on the object;

the storage server causes the processing device to perform the operation;

the storage server receives at the storage server a result of the operation from the processing device; and

the storage server conditionally allows access to the object in response to the client request according to the result of the operation.

89. (New) An apparatus as in claim 88, wherein the operation comprises virus scanning.